

AMENDED CLAIMS

[Received by the International Bureau on 20 July 2004 (20.07.2004) ; original claims 1 - 3, 6, 7, 9 - 11, amended ; original claims 8, 13, 14, cancelled, original claims 4, 5, 12 and 15 remain unchanged]

1. (Currently Amended) An Apparatus for connecting a riser to a subsea wellhead assembly, comprising:

a tie-back connector for connection to the wellhead assembly, the connector including an elongate tubular tie-back body and a connector assembly radially outward of the tubular tie-back body; and

a tie-back flange assembly having first and second flanges, with said first body flange having a connection for separable connection to an axial end of the tie-back body and said second riser flange for connecting to the riser, said tie-back body and said riser each formed from a metallic material, said riser and said riser flange being removable from said body flange, and said body flange being removable from said tie-back body for insertion or removal of said connector assembly on said tie-back body.

2. (Currently Amended) An apparatus as defined in Claim 1, further comprising: the riser flange mechanically connected to the riser, the riser flange having a mating face for engagement with the tie-back body flange; and

a securing structure for removably securing the riser flange to the tie-back body flange at their mating faces.

3. (Currently Amended) An apparatus as defined in Claim 2, wherein the tie-back body and the riser flange are of dissimilar materials.

4. (Original) An apparatus as defined in Claim 3, further comprising: an insulator for electrically insulating between the tie-back body and the riser flange.

5. (Original) An apparatus as defined in Claim 4, wherein the insulator comprises:

an insulation ring between the tie-back body and the riser flange.

6. **(Currently Amended)** An apparatus as defined in Claim 4, wherein the insulator comprises:

one or more insulation washers positioned between a corresponding one or more threaded members joining the riser flange with the tie-back body flange.

7. **(Currently Amended)** An apparatus as defined in Claim 1, further comprising: a threaded connection between the tie-back body flange and the tie-back body.

8. **(Cancelled)**

9. **(Currently Amended)** An apparatus as defined in Claim 81, further comprising:

a sandwich flange for positioning between the mating faces of the tie-back body flange and the riser flange.

10. **(Currently Amended)** An apparatus as defined in Claim 9, wherein the sandwich flange comprises:

an insulating material for electrically insulating between the riser flange and the tie-back body flange.

11. **(Currently Amended)** An apparatus as defined in Claim 1, further comprising:

a radially movable latch member for connecting the tubular tie-back body and the tie-back body flange, the latch member comprising upper and lower teeth adapted to engage grooves about adjacent ends of the tubular tie-back body and the tie-back body flange when the latch member is moved radially inwardly.

12. **(Original)** An apparatus as defined in Claim 11, wherein the radially movable latch member comprises:

mechanically actuated dogs or a C-ring locking member.

13. (Cancelled)

14. (Cancelled)

15. (Original) An apparatus as defined in Claim 1, further comprising:
a seal member for sealing between the riser flange and the tubular tie-back body.

16. (Currently Amended) An apparatus as defined in Claim 1, wherein the tie-back body is a low alloy steel and the riser flange is a titanium alloy.

17. (Currently Amended) An Apparatus for connecting a riser to a subsea wellhead assembly, comprising:

a tie-back connector for connection to the wellhead assembly, the tie-back connector including an elongate tubular tie-back body and a connector assembly radially outward of the tubular body;

a tie-back body flange mechanically connected to the tie-back body, the tie-back body flange having a mating face facing upwardly from the tie-back connector for connecting to the riser, the tie-back body flange comprising different materials than materials comprising the riser;

a riser flange connected to one axial end of the riser, the riser flange having a mating face facing away from the riser, for mating with the mating face of the tie-back body flange, said tie-back body and said riser each formed from a metallic material, said riser and said riser flange being removable from said body flange, and said body flange being removable from said tubular body for insertion or removal of said connector assembly on said tubular body;

a threaded connection between the tie-back body flange and the tie-back body;
and

an electrical insulation material separating the different materials of the tie-back connector and the riser flange.

18. **(Currently Amended)** Apparatus for connecting a riser to a subsea wellhead assembly, comprising:

a tie-back connector for connection to the wellhead assembly, the tie-back connector including an elongate tubular tie-back body and a connector assembly radially outward of the tubular body;

a tie-back flange assembly having first and second flanges, with said first body flange having a connection for separable connection to an axial end of the tie-back body and said second riser flange having a mating face for connecting to a riser;

said tie-back body and said riser each formed from a metallic material;

a riser flange mechanically connected to the riser, the riser flange having a mating face facing downwardly from the riser, said riser and said riser flange being removable from said body flange, and said body flange being removable from said tie-back body for insertion or removal of said connector assembly on said tie-back body;

a threaded connection between the tie-back body flange and the tie-back body;

a sandwich flange for positioning between the mating faces of the tie-back body flange and the riser flange, the sandwich flange comprising an insulating material for electrically insulating between the riser flange and one or more of the tubular tie-back body and the tie-back body flange;

one or more threaded members passing through and joining the sandwich flange, the riser flange, and the tie-back body flange; and

one or more insulation washers positioned between a corresponding one or more threaded members joining the riser flange with the tie-back body flange.

19. **(Currently Amended)** Apparatus for connecting a riser to a subsea wellhead assembly, comprising:

a tie-back connector for connection to the wellhead assembly, the tie-back connector including an elongate tubular tie-back body and a connector assembly radially outward of the tubular body;

a tie-back body flange mechanically connected to the tie-back body, the tie-back

flange having a mating face facing upwardly from the tie-back connector for connecting to the riser, said tie-back body and said riser each formed from a metallic material;

a riser flange mechanically connected to the riser, the riser flange having a mating face facing downwardly from the riser for mating with the mating face of the tie-back flange, said riser and said riser flange being removable from said body flange, and said body flange being removable from said tie-back body for insertion or removal of said connector assembly on said tie-back body;

a radially movable latch member for connecting the tubular tie-back body and the tie-back body flange, the latch member comprising upper and lower teeth adapted to engage grooves about adjacent ends of the tubular tie-back body and the tie-back body flange when the latch member is moved radially inwardly;

one or more threaded members passing through and joining the riser flange and the tie-back body flange; and

an insulator including an insulation ring between the tubular tie-back body and the tie-back body flange and one or more insulation washers positioned between a corresponding one or more threaded members joining the riser flange with the tie-back body flange.

20. (Currently Amended) A connection structure for securing a riser to a subsurface wellhead assembly, comprising:

an elongate, tubular connection body having first and second axial ends;

a tie-back connector for connection to the wellhead assembly, the connector including an elongate tubular tie-back body and a connector assembly radially outward of the tubular body;

a wellhead engagement structure at the first axial of the body and riser connection structure at the second axial end of the tubular body;

a tie-back body flange mechanically connected to the tie-back body, the tie-back body flange having a mating face facing upwardly from the connector assembly for connecting to the riser, said tie-back body and said riser each formed from a metallic material, said riser being removable from a tie-back body flange at an upper end of said tie-back body, and said body flange being removable from said tie-back body for

insertion or removal of said connector assembly on said tie-back body; and
an electrical insulating material carried at the second axial end of the tubular connection body for electrically insulating the tubular connection body from the riser.

21. **(Currently Amended)** A connection structure as defined in Claim 20 wherein said riser comprises a flange at an axial end of the riser.

22. **(Currently Amended)** A connection structure as defined in Claim 21 wherein said electrical insulating material is carried on the body flange.

23. **(Currently Amended)** A connection structure as defined in Claim 21 wherein said body flange is threadably engaged to said tubular connection body.

24. **(Currently Amended)** A connection structure as defined in Claim 21 wherein said body flange is connected to said tubular connection body by a radially movable clamping element.